REMARKS:

Claims 1, 3-7, and 15 have been rejected under 35 U.S.C. §102(b) as being anticipated by the teachings of Newton et al (United States Patent 2,880,191). However, it is the Applicants' position that the claims previously pending in the subject patent application were not anticipated by the teachings of Newton. In any case, the claims pending in the subject patent application have been amended to be further distinguished from the teachings of Newton.

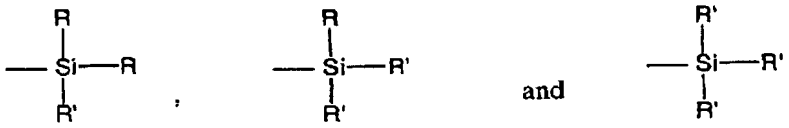
Claim 1 of the subject patent application is not anticipated or rendered obvious by the teachings of Newton for two different reasons. More specifically, claim 1 calls for the silica reinforced rubber composition being claimed to consist essentially of (1) a rubbery polymer, (2) an elongated silica, (3) a silica coupling agent, and (4) optionally, certain conventional rubber compounding ingredients. The closed ended transitional language "which consists essentially of" distinguishes the composition now being claimed from the teachings of Newton. This is because Newton does not suggest utilizing only elongated silica in the compositions that he describes. Newton does indicate that "monox" silica can be used in his reinforced rubbery materials. However, "monox" is a mixture of substantially fibrous particles with spherical particles and/or horn-like particles. The closed ended transitional language used in claim 1 precludes the presence of spherical silica particles and horn-like silica particles. The silica used in the composition now being claimed is totally elongated silica. This is in contrast to the compositions made with "monox" that are described by Newton since they also contain spherical and/or horn-like silica particles (see Newton at column 2, lines 56-59). Since the presence of spherical and horn-like silica particles is precluded from the compositions now being claimed, the teachings of Newton do not anticipate claim 1 of the subject patent application.

The invention now being claimed is based upon the discovery that elongated silica has superior characteristics for reinforcing rubbery elastomers as compared to conventional silica (see page 2, lines 19-20). More specifically, elongated silica provides a higher level of reinforcement for elastomers at the same level of loading (see page 2, lines 21-22). Accordingly, elongated silica can be employed to attain an equivalent level of reinforcement at a lower level of loading (see page 2, lines 22-23). This results in low weight compositions that offer potential cost savings (see page 2, lines 23-24). Rubber compounds that are reinforced with elongated silica offer significant advantages in tires including reduced rolling

resistance, increased tread life, and, of course, reduced weight (see page 2, lines 24-26). These advantages of utilizing elongated silica in the rubber compositions being claimed are not rendered obvious by the teachings of Newton.

Newton indicates that arc silica, fume silica, or silicon monomixed (monox) can be used in the compositions described therein. The arc silica of Newton is reported to be essentially spherical (see Newton at column 2, lines 34-39) as is the fume silica (see Newton at column 2, lines 40-44). As has previously been explained, the monox silica of Newton is a mixture of substantially fibrous particles with spherical particles and/or horn-like particles. Thus, the teachings of Newton do not suggest or imply that there would be any advantage associated with utilizing elongated silica in rubber compositions. To the contrary, Newton teaches that arc silica and fume silica are totally suitable for utilization in practicing his invention. Nothing within the teachings of Newton suggests that there would be any advantage associated with utilizing elongated silica as reinforcement for rubbery compositions. In other words, Newton provides absolutely no motivation to employ elongated silica in rubber compositions. Thus, the teachings of Newton do not render obvious the invention now being claimed since Newton does not disclose or suggest that there would be any advantage associated with utilizing elongated silica in the compositions now being claimed.

Claim 1 has been amended to call for the silica reinforced rubber composition being claimed to contain a silica coupling agent of the structural formula: Z-Alk-S_n-Alk-Z, wherein Z is selected from the group consisting of



wherein R is an alkyl group of 1 to 4 carbon atoms, a cyclohexyl group or a phenyl group; wherein R' is an alkoxy group containing 1 to 8 carbon atoms or a cycloalkoxy group containing 5 to 8 carbon atoms; and wherein Alk is a divalent hydrocarbon of 1 to 18 carbon atoms, and wherein n represents an integer of 2 to 8 carbon atoms.[1] It is highly advantageous to include such a silica coupling agent in the rubber composition being claimed to realize the

[1] This amendment is supported by the originally filed specification at page 12, lines 3-18.

maximum benefits of the invention being claimed (see the specification at page 12, lines 3-4). The inclusion of a silica coupling agent in the compositions being claimed is not rendered obvious by the teachings of Newton. In fact, Newton does not disclose or suggest the possibility of including such a silica coupling agent in the compositions that he describes. Thus, this is an additional reason that the invention now being claimed is not anticipated or rendered obvious by the teachings of Newton.

Claim 1, the only independent claim pending in the subject patent application, is not anticipated by the teachings of Newton because Newton does not disclose the possibility of reinforcing a rubber composition totally with elongated silica (in the absence of spherical or horn-like shaped silica particles). The closed-ended transitional language in claim 1 (which consists of) precludes spherical and horn-like shaped silica particles from being in the composition being claimed. Additionally, Newton does not disclose the possibility of including a silica coupling agent in such a composition. Claim 1 is not obvious in light of the teachings of Newton because Newton does not suggest that there would be any advantage associated with reinforcing rubber compositions with elongated silica or that there would be any advantage associated with including a silica coupling agent in the reinforced rubber compositions being claimed.

For the aforementioned reasons, claim 1 is not anticipated or rendered obvious by the teachings of Newton. Thus, claim 1 is fully in compliance with the requirements of 35 U.S.C. §102 and 35 U.S.C. §103. Accordingly, the subject patent application is now in a condition for allowance and such an allowance is respectfully requested.

Respectfully submitted,

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